the child complete healing takes place after a short time with no structural change within the antrums. However, if a very virulent infectious process gains entrance to the antrums, or if reinfection occur at frequent intervals, permanent damage is done; a pathological condition is begun and a chronic sinusitis results. This in turn is too often followed by impaired general health, atrophic rhinitis, infection of the other paranasal sinuses, as they develop and any or all of the disease processes which are caused by chronic focal infection. Good health, therefore, is the primary prophylactic measure. An excellent state of nutrition, which is possible only with ample food, sufficient vitamins and exposure naked in the direct rays of the sun, means fewer respiratory infections and these of shorter duration.

The infection, when it has become subacute or even when chronic, may often be cleared up by improving the child's general condition. When doubt exists as to the necessity of surgical interference the general measures, rest, a carefully arranged diet with cod liver oil, heliotherapy or the quartz lamp, and in selected cases an autogenous respiratory vaccine should be given fair trial. In deciding whether or not surgery should be advised, the appearance of the anterior portion of the middle turbinate seems to be the best guide. If the mucous membrane of this area shows a beginning atrophic rhinitis, surgery is indicated. After atrophic rhinitis has made its appearance I have not seen a spontaneous recovery.

Shook is calling our attention to a most important and heretofore neglected seat of infection in children. I have referred him many cases with gratifying results. This work promises an opportunity to prevent many children from struggling through years of impaired health—to arrive at adult life with chronic sinus infections, the treatment of which is at present far from satisfactory.

COSMETIC SURGERY OF THE THYROID GLAND UNDER LOCAL ANESTHESIA †

By CHARLES CALVIN TIFFIN *

UNLIKE most other regions of the body, the scar following thyroid surgery must be placed on trial before the critical observation of the patient, the patient's friends, and others. As surgeons we have probably not shown the proper interest in the cosmetic effects of our work but rather in the therapeutic results of the operation, in consequence of which a great number of women in particular have refused operation, preferring to carry the goiter through life rather than have what they call "a large ugly scar." This idea has been helped along to a large extent by friends, so-called, who have failed to realize the great service to be rendered the patient in terms of better health and extended life.

It is unnecessary to say that the scar should be no objection to whatever is necessary to save life, for we are supposed to be scientific men with one great object in view—the restoration of good health and life conservation. With this idea in mind we have gone on through several generations of thyroid surgery, making the same large scar as our great forebears in this interesting field. Of course, we are not to be severely criticized, for in all scientific research the refinements and niceties always have followed the somewhat cruder earlier work.

Public opinion largely accepts the fact that goiter operations in the hands of skilled operators offer little hazard to the life of the individual, especially if the patient is cared for early. Let us demonstrate, then, that not only can we do a thyroidectomy safely, but that we can do it so as to make the scar almost invisible. In order to succeed in this we must remember, first, that all scars are produced by the direct injury of the operation or to violence or roughness in handling the tissues, and, second, to our tendency to overlook the great principle that all tissues must be placed in such a position during and in closing the operation that a normal-looking neck will be the result. It is not enough simply to close the wound superficially so that it appears smooth and nice in appearance.

Important questions for the surgeon to ask himself are:

How will this neck look in six months or a year?

Have I carefully studied the contour of the neck to be operated on, considering its present deformity; just how much gland is to come out, and just where and how long the incision is to be; and have I a very sharp knife with which to make the incision?

Am I going to remember that this is done under a local anesthetic, and that my patient, while not suffering pain, will not enjoy the least bit of roughness in sponging or in handling the tissues, and am I really aware of the fact that the principal cause of shock is lack of gentleness during the operation?

Have I carefully dissected the skin of the lower flap as well as the upper, knowing that if the upper flap is freed and the lower not freed the result will be an overhanging scar?

Have I been careless under the surface; have I neatly and carefully resected the thyroid gland, or have I left irregular masses here and there?

Have I cut muscles that should not have been cut or have I interfered with the nerve supply of the sternomastoid muscles which will be certain to cause atrophy?

Have I cleared the trachea of all thyroid tissue so that there will be no regrowth of the gland in the midline with its resultant deformity?

Have I made a nice straight-line incision in the fascia so that a neat smooth scar will follow here, or have I bruised the fascial edges, making likely a slough with deformity in midline?

Have I ligated the superior poles of the thyroid gland high enough to prevent regrowth in this locality, and in ligating the superior pole have I been careful not to carry the suture into the subcuticular tissue, thus producing an ugly-looking depression in this region?

Have I a perfectly dry clean field after the operation is finished, or am I leaving in bits of tissue, clots or small bleeders as an inspiration to deformity and adhesions, and have I carefully closed and sutured all of the small cut muscles?

Have I placed my twenty-four-hour drain through the angles of my incision by means of a puncture wound through the sternocleidomastoid muscle, or

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have I put it in midline with a certainty of midline skin attachment and puckering later on?

Have I sutured the skin too much or do I realize that perfect apposition and rest is what I want rather than pressure and constriction from too much suturing, especially in the loose skin of the neck?

Am I thoroughly appreciative of the fact that the drain should be removed at the earliest possible moment, varying from twelve to twenty-four hours, and that part of the skin clips can be taken out the second day and the remainder the third morning?

Lastly, am I appreciative of the fact that active and passive massage should be begun early and kept up for several weeks to prevent slight adhesions with their deformities?

I believe that local anesthesia is the ideal anesthesia in thyroid surgery because it helps to answer these questions satisfactorily to myself and patients. In injecting a local anesthetic, start, of course, with a very small needle, telling the patient to expect a small pin-prick sensation. I think it is best to make the first injection one inch below the sternal notch, working upward from this point. It is not necessary to enter through this same point, but it is necessary always to enter through an anesthetized area. Infiltrate in the subcuticular tissue and not into the skin, and after this is well infiltrated inject deeply on a level with the superior poles of the gland, forcing in about 10 cc. Be sure to stay outside of the trachea and medially to the large vessels, and be sure to draw on the piston of the syringe before you inject, to be sure you are not in the blood vessel.

Make your incision much smaller than you think you need. Two to two and one-half inches is long enough for all but the occasional large goiter, and even the large cystic goiter can be removed through very small openings in the skin, for it is very elastic. After making the skin incision at least one inch out under at the ends and well under the lower and upper flaps, then with a special tenaculum or small forceps fasten the upper flap out of the way by means of attachment to the sterile side of the face protector of the patient.

In working through small openings such as this, a double spreading retractor is no help and really only a handicap, as it makes the edges of the skin tight and prevents the freeing of the superior poles. After the fascia has been incised and the gland is in view, pass No. 2 catgut tractor on a needle through the more conspicuous lobe, and then with this tractor bring this lobe up into the wound. Now inject about 5 cc. of one-half per cent novocaine into the lobe, especially the superior pole. Be certain you are through the anterior fascia and small muscles of the lobe, and as you free it insert more tractor sutures and the lobe will be elevated from its bed. While doing this catch and tie the lateral venous circulation. When the superior pole is in position and free, clamp off with two forceps for double protection and with a sharp knife free the superior pole.

From now on your work is easy. If the patient feels pain at any time inject novocaine at the point of pain. Remember the sternomastoid muscles are sensitive, so inject them too if the patient complains as your assistant starts gently retracting on the side you are working on. Do your resecting from the medial side as much as possible, first freeing the trachea by incising down to it in midline. This resecting from the medial side on a level with the trachea insures protection of the recurrent laryngeal. But as you approach this delicate region place your forceps and test out the patient's voice before you resect in a given area and you will not be sorry later. After the lobe is out tie off bleeders very carefully. Here you appreciate the two forceps on the superior pole, for if the suture breaks in tying you still have one forcep in place. After removing one lobe and securing perfect hemostasis remove the other in like manner. Have the patient cough several times after the resection is over. If there are poorly secured ties or temporarily placed clots this will dislodge them and you can further ligate and feel certain you will have no postoperative hemorrhage. Remember to use novocaine whenever you need it to secure perfect freedom from pain, and advise the patient to inform you at the slightest pain. Make a puncture wound for a small flexible tube through the sternomastoid muscle and close the fascia with interrupted plain gut. I do not use subcuticular sutures for the skin, simply closing with clips. Remove the drain in from twelve to twenty-four hours, part of the clips the second morning and the rest the third morning. Massage early and free the skin from any possible adhesions, having the patient assist at this and keep it up until the skin is freely movable and normal in appearance.

I have long ago ceased to use adrenalin with the one-half per cent novocaine. Consequently I no longer encounter giddiness and faintness. I also find that my anesthetic continues to be as satisfactory as it was when I used adrenalin. I do use morphin preparatory to all thyroid surgery by giving one-eighth of a grain one and one-fourth hours and an additional one-quarter grain thirty minutes before the operation. The first hypodermic quiets the patient and takes away her sensitiveness, and the last takes care of the ordinary discomforts of a hot operating room and enforced quiet of one position on the table.

Goiter patients are often very ill and their comfort is constantly catered to. The nurse sitting at the head of the table can slip her hand under the patient's neck and back of the head, ice can be given and the patient's mind is occupied by quiet questions from time to time, first, to help time to pass and, second, to show pressure on the recurrent laryngeal.

Remember that the cardiovascular system and the viscera are great sufferers from prolonged toxic or exophthalmic goiter and that our problem is to find a means of removing this goiter with a minimum of irritation and shock. We must interfere as little as possible with the diet, avoid hemorrhage and lighten the load on the circulation and kidneys.

The experienced surgeon readily appreciates that there is a distinct difference between goiter and other major surgery. There is no other type of operation which gives the severe reactions that often occur after thyroidectomy.

Call to memory some of your goiter patients. If

you have been unfortunate in one of these the third or fourth day after an operation, think this point over, "why did you lose the patient and why usually before the fourth day?" Is it because the patient is so much undernourished and run down that any additional load often results in infection which kills her? Plummer says that infection kills most of these patients. It is my experience and belief that the symptoms during the reaction clearly prove that infection has much to do with the high mortality in this type of surgery. Certainly there is no type that can cause the surgeon more worry for two or three days after the operation than thyroidectomy.

What are some of the advantages of local anesthesia? It enables one to feed the patient right up to the time of operation and to have practically no interruption following it. It gives the operator co-operation from the patient during the operation, making it possible for her to warn the operator when the recurrent laryngeal nerve is in danger or has been pinched. Many times I have been very close to this nerve, and have discovered my proximity to it by the disturbed breathing or changed voice of the patient. Again, a patient who is awake can co-operate with the surgeon by coughing, following the removal of the gland. This will dislodge a clot or poorly secured tie, and it will do this while the field is under the observation of the surgeon. Again, when one becomes thoroughly conversant with local anesthesia he has a tendency toward developing rapid technique because of the continual desire to get the patient off of the table as quickly as possible, a matter of great importance in this type of surgery. Shock, which is one of the important things not to be overlooked, is severe in direct proportion to the amount of trauma and anesthetic. We are extra careful to avoid shock when the patient is awake. It is true our mortality today, especially from exophthalmic goiter, has been much lowered through preparatory use of iodin, and we are losing very few patients. Certainly it should be our endeavor to lower our mortality still more.

CONCLUSIONS

1. Local anesthesia favors increased speed and efficiency of the operator and enforces gentleness in operations on the thyroid.

2. Small faint scars may be secured by: (a) short clean-cut incision; (b) free dissection of both the upper and lower flaps and laterally from the angles of the incision; (c) clean dissection and careful ligations; (d) small drain at angle instead of midline drain; (e) early removal of drain and skin clips; and (f) early and continued massage to keep skin from adhering in any place.

The essence of good manners, generosity of spirit, a sense of style and a sense of proportion, these are the essence of all art. They are the essence of the art of life. It is a tragic comment on our scurrying industrial society—and on the intellectual life it generates—that that most gracious of all arts is coming into disrepute.—Irwin Edman, The Bookman, August, 1926.

ADVANTAGES OF MEDICAL SOCIAL SERVICE IN ORTHOPEDIC SURGERY †

By GEORGE J. MCCHESNEY *

MEDICAL Social Service is indispensable in the special field of orthopedic surgery. This is because orthopedic surgery is the surgery of chronic long-drawn-out diseases such as infantile paralysis, tuberculosis of bones and joints, spastic paraplegia, chronic arthritis and congenital deformities such as club-feet, dislocated hips, and cleft palate, in which services are required over a period of years, during which the medical social worker must maintain a proper contact between the surgeon and the patient. Essential contact consists not only in routine follow-up letters sent when the patient is overdue for the next visit, but in a periodic check-up of the changing financial status and social and housing conditions of the family. A child properly cared for at the beginning of a long course of treatment for tubercular hip or spine may later suffer from improper food and lodging when the father is out of work, or the family becomes larger as years pass by. Here is where steady visits and interviews by the social worker, with parents or patient, becomes so necessary, and is more often acceptable and, of course, more economical than too much attention by the doctor. A very helpful worker in these circumstances is the specially trained visiting nurse who can do simple dressings, inspect braces, shoes, plaster casts, recognize the kind of co-operation that is provided at home, the need of convalescent care in the country, etc., and report findings, actions, and changes of status to the physician.

An even more important service of the medical social worker is the assistance she can give in maintaining the morale of the patient and family. The encouraging ultimate prognosis that the orthopedist usually can give patients needs constant reiteration and amplification as time wears, and feasible results are slow in materializing. The surgeon, I fear, is apt to be impatient, often hurried, in his explanation for the general tediousness of things, and here the medical social worker can supplement her advice with additional details, information, and encouragement.

An important duty of social workers is the searching out and arranging for the treatment of hitherto unrecognized, missed or neglected patients requiring orthopedic care. Such patients are getting fewer with the many charitable agencies ferreting them out, but new ones are constantly being found and the search must continue as long as we have the ignorant, the poor, and tenement housing.

Another field of useful endeavor, the exact opposite of the foregoing, and in which the possibilities are but beginning to be recognized, is the social care and supervision after the period of active medical and hospital treatment is finished. These children,

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† Read before the 1926 Annual Meeting of the California Association of Medical Social Workers.

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